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REMARKS

The present application was filed on August 19, 2003 with claims 1 through 28. Claims 1 through 28 are presently pending in the above-identified patent application.

- 5 In the Office Action, the Examiner rejected claims 1-8, 20, 23, and 24 under 35 U.S.C. §103(a) as being unpatentable over Evoy (United States Patent Number 5,758,133) in view of Maguire, Jr. et al. (United States Patent Number 5,331,579), rejected claims 9 and 25 under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Wu et al. ("Bipolar Bootstrapped Multi-emitter
- 10 BiCMOS (B²M-BiCMOS) Logic for Low-Voltage Applications, Electronics, Circuits, and Systems," 1996, Volume 2, Pages 1174-1177), rejected claim 10 under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Chur (United States Patent Number 5,124,849), rejected claim 11 under 35 U.S.C. §103(a) as being unpatentable over Evoy, Maguire, Jr. et al., and Chur, and further in
- 15 view of Ohie et al. (United States Patent Number 5,936,448), rejected claim 12 under 35 U.S.C. §103(a) as being unpatentable over Evoy, Maguire, Jr. et al., Chur, and Ohie et al., and further in view of Burns et al. (United States Patent Number 4,698,587), rejected claims 13 and 21 under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Hacker (United States Patent Number 4,845,419), rejected
- 20 claims 14 and 15 under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Bassett et al. (United States Patent Number 5,127,008), rejected claims 16-18 under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and Bassett et al., and further in view of Hacker, rejected claim 19 under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and
- 25 further in view of Kolanek (United States Patent Application Publication Number 2002/0047745 A1), rejected claim 22 under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and Hacker, and further in view of Kolanek, rejected claim 26 under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Chur and Ohie et al., rejected claim 27 under 35 U.S.C. §103(a) as
- 30 being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Iida et al. (United States Patent Number 6,525,585), and rejected claim 28 under 35 U.S.C. §103(a)

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as being unpatentable over Evoy and Maguire, Jr. et al., and Takahashi (United States Patent Number 6,253,358).

Independent Claims 1, 20 and 28

Independent claims 1 and 20 were rejected under 35 U.S.C. §103(a) as
5 being unpatentable over Evoy and Maguire, Jr. et al., and claim 28 was rejected under 35
U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and Takahashi.
Regarding claim 1, the Examiner acknowledges that Kirkpatrick (assumed to be Evoy)
does not explicitly teach the specific use of determining, at a particular age of the
electronic system, one or more performance parameters for the electronic system, but
10 asserts that Maguire, Jr. et al., in an analogous art, teach "that the present invention is a
computer-based modeling system designed to improve the overall performance of
components and systems that degrade with age." (Col. 1, lines 10-12.)

As the Examiner acknowledges, Kirkpatrick (assumed to be Evoy) does
not explicitly teach the specific use of determining, at a particular age of the electronic
15 system, one or more performance parameters for the electronic system. Thus, contrary to
the Examiner's assertion, Kirkpatrick (Evoy) does not disclose or suggest *adjusting an
operating frequency of the one or more electronic components* from the electronic
system *in accordance with the one or more performance parameters, wherein the one or
more performance parameters are correlated with maximum operating frequency of*
20 *one or more electronic components of the electronic system for the particular age of
the electronic system.*

In addition, Maguire et al. teach that

the present invention is a computer-based modeling system
designed to improve the overall performance of components and systems
25 that degrade with age. The invention combines expert rules, probabilistic
models, and deterministic models to *evaluate and predict the effect of
component aging on component life extension, operational readiness,
maintenance effectiveness, and safety of a system along with evaluating
and recommending maintenance and operational actions to improve the
overall performance of the modeled system.*
30 (Col. 1, lines 10-19; emphasis added.)

Maguire et al. further teach that "the information is processed by the
system to obtain *output values of the life left, the failure probabilities, the useful
service, and the life profiles of the systems and components.*" (Col. 5, lines 34-37;

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emphasis added.) Thus, Maguire also does *not* disclose or suggest *adjusting an operating frequency of the one or more electronic components* from the electronic system in accordance with the one or more performance parameters, wherein the one or more performance parameters are *correlated with maximum operating frequency of one or more electronic components of the electronic system for the particular age of the electronic system*. Independent claims 1, 20, and 28 require determining, at a particular age of the electronic system, one or more performance parameters for the electronic system, the one or more performance parameters correlated with maximum operating frequency of one or more electronic components of the electronic system for the particular age of the electronic system; and adjusting an operating frequency of the one or more electronic components from the electronic system in accordance with the one or more performance parameters.

Thus, Evoy and Maguire, Jr. et al., alone or in combination, do not disclose or suggest determining, at a particular age of the electronic system, one or more performance parameters for the electronic system, the one or more performance parameters correlated with maximum operating frequency of one or more electronic components of the electronic system for the particular age of the electronic system; and adjusting an operating frequency of the one or more electronic components from the electronic system in accordance with the one or more performance parameters, as required by independent claims 1, 20, and 28.

Additional Cited References

Wu et al. was also cited by the Examiner for its disclosure to compare speed performance of the new BiCMOS logic circuit with those of CMOS, conventional BiCMOS, and Bootstrapped BiCMOS logic circuits (Abstract).

Applicants note that Wu et al. is directed to the bipolar bootstrapped multi-emitter BiCMOS logic and to HSPICE simulations that compare the BiCMOS logic circuit with those of CMOS, conventional BiCMOS, and Bootstrapped BiCMOS logic circuits. Wu et al. do not address the issue of determining, at a particular age of an electronic system, one or more performance parameters for the electronic system, wherein the one or more performance parameters are correlated with a maximum operating frequency of electronic components of the electronic system for the particular

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age of the electronic system; and adjusting an operating frequency of the electronic components in accordance with the one or more performance parameters.

Chur was also cited by the Examiner for its disclosure of the testing of completed head disk assemblies (HDA) ...develop into a problem as the HAD ages.

5 Applicants note that Chur is directed to a method for detecting aberrations in a digital data storage medium, such as a magnetic media disk. (See, Abstract.) Chur does not address the issue of determining, at a particular age of an electronic system, one or more performance parameters for the electronic system, wherein the one or more performance parameters are correlated with a maximum operating frequency of electronic components of the electronic system for the particular age of the electronic system; and
10 adjusting an operating frequency of the electronic components in accordance with the one or more performance parameters.

Ohie et al. was also cited by the Examiner for its disclosure of decreasing the noise supply by lowering the operating frequency while threshold voltages are
15 measured to reduce measuring errors.

Applicants note that Ohie et al. is directed to an integrated circuit in which Schmitt input circuits can be tested in a short time and a highly accurate test result can be obtained. (See, Abstract.) Ohie et al. do not address the issue of determining, at a particular age of an electronic system, one or more performance parameters for the
20 electronic system, wherein the one or more performance parameters are correlated with a maximum operating frequency of electronic components of the electronic system for the particular age of the electronic system; and adjusting an operating frequency of the electronic components in accordance with the one or more performance parameters.

Burns et al. was also cited by the Examiner for its disclosure of determining the maximum operating frequency for which the integrated circuit operates
25 correctly (no logic errors).

Applicants note that Burns et al. is directed to a method for characterizing critical timing paths and analyzing timing related failure modes in high clock rate photocurrent at the drain of a single transistor in a very large scale integrated circuit.
30 (See, Abstract.) Burns et al. do not address the issue of determining, at a particular age of an electronic system, one or more performance parameters for the electronic system,

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wherein the one or more performance parameters are correlated with a maximum operating frequency of electronic components of the electronic system for the particular age of the electronic system; and adjusting an operating frequency of the electronic components in accordance with the one or more performance parameters.

5 Hacker was also cited by the Examiner for its disclosure that the performance of a given type of battery in actual use can be accurately judged since the battery system can itself maintain a count of accumulated hours of use, and other relevant parameters.

Applicants note that Hacker is directed to a portable system wherein the user can obtain a relatively accurate indication of the battery energy remaining available for use at any time during a portable operating cycle. (Col. 1, lines 51-54.) Hacker does not address the issue of determining, at a particular age of an electronic system, one or more performance parameters for the electronic system, wherein the one or more performance parameters are correlated with a maximum operating frequency of electronic components of the electronic system for the particular age of the electronic system; and adjusting an operating frequency of the electronic components in accordance with the one or more performance parameters.

15 Bassett et al. was also cited by the Examiner for its disclosure that the second module testing process is performed when it is necessary to enhance the operational reliability of shipped modules, by accelerating and provoking the immediate failure of those correctly but marginally fabricated devices and modules which would otherwise fail early in their expected operational lifespan.

Applicants note that Bassett et al. is directed to a method and apparatus for designing very large scale integrated circuit devices, most particularly level sensitive scan design (LSSD) devices, by inclusion of a plurality of distributed delay lines originating at input terminals of the device, and controlling the inhibiting and enabling of driver circuits connected to the output terminals of the device, as required to regulate operation of device drivers during a plurality of testing operations. (See, Abstract.) Bassett et al. do not address the issue of determining, at a particular age of an electronic system, one or more performance parameters for the electronic system, wherein the one or more performance parameters are correlated with a maximum operating frequency of electronic

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components of the electronic system for the particular age of the electronic system; and adjusting an operating frequency of the electronic components in accordance with the one or more performance parameters.

5 Kolanek was also cited by the Examiner for its disclosure of the set of desired or set point values for the performance parameters, which are provided to the SLMC 320 from some external source such as a wireless communication network system operator.

Applicants note that Kolanek is directed to a signal level and gain management scheme wherein variable internal gain elements are introduced into the LINC amplifier structure in order to maintain internal signal levels at predetermined levels (e.g. optimum signal levels, such as, for example, an optimum SNR) while at the same time permit control of the net gain of the LINC amplifier. (See, paragraph 0014.) Kolanek does not address the issue of determining, at a particular age of an electronic system, one or more performance parameters for the electronic system, wherein the one or more performance parameters are correlated with a maximum operating frequency of electronic components of the electronic system for the particular age of the electronic system; and adjusting an operating frequency of the electronic components in accordance with the one or more performance parameters.

20 Iida et al. was also cited by the Examiner for its disclosure that the clock generation circuit...manufacture (FIG. 6; col. 3, lines 52-61).

Applicants note that Iida et al. is directed to a fixed-length delay generation circuit designed to restrain variations in delay values caused by, for example, temperature variations. (Col. 1, lines 7-11.) Iida et al. do not address the issue of determining, at a particular age of an electronic system, one or more performance parameters for the electronic system, wherein the one or more performance parameters are correlated with a maximum operating frequency of electronic components of the electronic system for the particular age of the electronic system; and adjusting an operating frequency of the electronic components in accordance with the one or more performance parameters.

30 Takahashi was also cited by the Examiner for its disclosure that a computer-readable medium...performs the steps. (Col. 18, lines 60-64.)

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Applicants note that Takahashi is directed to a method for supporting the design of the semiconductor integrated circuit for the prediction of the performance of a large-scale integrated circuit (LSI) and a system using the same method. (Col. 1, lines 7-14.) Takahashi does not address the issue of determining, at a particular age of an electronic system, one or more performance parameters for the electronic system, wherein the one or more performance parameters are correlated with a maximum operating frequency of electronic components of the electronic system for the particular age of the electronic system; and adjusting an operating frequency of the electronic components in accordance with the one or more performance parameters.

Thus, Wu et al., Chur, Ohie et al., Burns et al., Hacker, Bassett et al., Kolanek, Iida et al., and Takahashi, alone or in combination, do not disclose or suggest determining, at a particular age of the electronic system, one or more performance parameters for the electronic system, the one or more performance parameters correlated with maximum operating frequency of one or more electronic components of the electronic system for the particular age of the electronic system; and adjusting an operating frequency of the one or more electronic components from the electronic system in accordance with the one or more performance parameters, as required by independent claims 1, 20, and 28.

Dependent Claims 2-19 and 21-27

Dependent claims 2-8, 23, and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy in view of Maguire, Jr. et al., claims 9 and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Wu et al., claim 10 was rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Chur, claim 11 was rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy, Maguire, Jr. et al., and Chur, and further in view of Ohie et al., claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy, Maguire, Jr. et al., Chur, and Ohie et al., and further in view of Burns et al., claims 13 and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Hacker, claims 14 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Bassett et al., claims 16-18 were rejected

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under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and Bassett et al., and further in view of Hacker, claim 19 was rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Kolanek, claim 22 was rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and Hacker, and further in view of Kolanek, claim 26 was rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Chur and Ohie et al., and claim 27 was rejected under 35 U.S.C. §103(a) as being unpatentable over Evoy and Maguire, Jr. et al., and further in view of Iida et al.

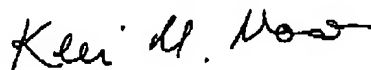
Claims 2-19 and 21-27 are dependent on claims 1 and 20, respectively, and are therefore patentably distinguished over Evoy, Maguire, Jr. et al., Wu et al., Chur, Ohie et al., Burns et al., Bassett et al., Kolanek, Iida et al., and Takahashi (alone or in any combination) because of their dependency from independent claims 1 and 20 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

All of the pending claims, i.e., claims 1-28, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,



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